

Maryland Health Care Commission

Primary Percutaneous Coronary Intervention (PCI) Programs in Hospitals without On-Site Cardiac Surgery

Source: Maryland STEMI (Primary PCI) Data Registry – 10/15/2009

Under the primary PCI waiver program, hospitals without on-site cardiac surgery may provide PCI services to patients meeting certain eligibility criteria. With one exception, all patients undergoing PCI during this reporting period were appropriate for primary PCI in settings without on-site cardiac surgery. The hospitals are required to collect data on all patients with ST-segment elevation myocardial infarction (STEMI). Door-to-balloon (DTB) time is typically recorded as the difference in minutes between the patient's arrival in the hospital's emergency room and the time of first device use. In the registry database, exceptions to this calculation method most commonly occur when the patient arrives with a *history* of chest discomfort but a normal or non-diagnostic initial (first) electrocardiogram (ECG). *If and only if* the first ECG is normal/non-diagnostic *and* is entered into the database for review and confirmation along with a second ECG showing STEMI, then the date and time of the second (diagnostic) ECG are used as the "door" or "clock start" time to calculate DTB time. This same algorithm is applied to patients already hospitalized: the "door" ECG is the first ECG recorded showing STEMI.

Table 1. PCI volume¹, median DTB time, and number and percentage of patients by DTB ≤ 120 minutes or > 120 minutes at Maryland hospitals performing primary PCI under waivers from the Maryland Health Care Commission (MHCC), April to June 2009. MHCC waiver requirements specify that 80% of appropriate patients should receive primary PCI as soon as possible and not to exceed a door-to-balloon time of 120 minutes.

	Total PCI Volume	Median DTB (minutes)	≤ 120 Minutes (N)	≤ 120 Minutes (%)	> 120 Minutes (N)	> 120 Minutes (%)
2nd Quarter 2009 (April 1 - June 30)						
Anne Arundel Medical Center	30	83.5	29	97	1	3
Baltimore Washington Medical Center	27	60	27	100	0	0
Carroll Hospital Center	23	72	22	96	1	4
Franklin Square Hospital Center	19	75	18	95	1	5
Frederick Memorial Hospital ²	23	49	21	91	2	9
Holy Cross Hospital	19	81	19	100	0	0
Howard County General Hospital	27	85	25	93	2	7
Johns Hopkins Bayview Medical Center	15	66	15	100	0	0
Saint Agnes Hospital	23	84	18	78	5	22
Shady Grove Adventist Hospital	29	80	28	97	1	3
Southern Maryland Hospital Center	15	84	13	87	2	13
Upper Chesapeake Medical Center	39	77	36	92	3	8
Washington County Hospital	21	83	19	90	2	10

¹ PCI volume – number of patients who had a device (balloon, stent, thrombectomy) used that is designed to open the infarction-related artery. The first device used is almost always a balloon-type device, but occasionally is a thrombectomy device. The data include all eligible patients and total door-to-balloon time for transferred patients.

² Frederick Memorial Hospital performed PCI on one patient who did not meet the inclusion criteria for primary PCI in hospitals without on-site cardiac surgery. The above volume and DTB data exclude this non-STEMI (NSTEMI) patient.

Two hospitals performed PCI for patients who were transferred from another facility. Shady Grove Adventist Hospital (SGAH) received within-county transfers from the Shady Grove Adventist Emergency Center, a freestanding medical facility that is located eight miles from the hospital. The emergency center is

a part of SGAH administratively and operationally; a memorandum of understanding between Adventist HealthCare, the Montgomery County Fire Rescue Service, and the Maryland Institute for Emergency Medical Services Systems allows inter-facility transports between the center and SGAH's Emergency Department. Upper Chesapeake Medical Center (UCMC) received within-county transfers from Harford Memorial Hospital, which is located about 19 miles from UCMC; both hospitals are members of Upper Chesapeake Health.

Table 2. PCI volume¹, median DTB time², and number and percentage of transferred patients by DTB ≤ 120 minutes or > 120 minutes at Maryland hospitals with primary PCI waivers, April to June 2009.

	Transfer PCI Volume	Median DTB (minutes)	≤ 120 Minutes (N)	≤ 120 Minutes (%)	> 120 Minutes (N)	> 120 Minutes (%)
2nd Quarter 2009 (April 1 - June 30)						
Shady Grove Adventist Hospital	2	84	2	100	0	0
Upper Chesapeake Medical Center	9	110	7	78	2	22

¹ PCI volume – number of patients who had a device (balloon, stent, thrombectomy) used that is designed to open the infarction-related artery. The first device used is almost always a balloon-type device, but occasionally is a thrombectomy device.

² DTB time – time of arrival (“clock start” time) at the first facility to time of PCI (device use) in the receiving facility

Table 3. PCI volume¹, median DTB time, and number and percentage of patients by DTB ≤ 90 minutes or > 90 minutes at Maryland hospitals performing primary PCI under waivers from the Maryland Health Care Commission, April to June 2009.

	Total PCI Volume	Median DTB (minutes)	≤ 90 Minutes (N)	≤ 90 Minutes (%)	> 90 Minutes (N)	> 90 Minutes (%)
2nd Quarter 2009 (April 1 - June 30)						
Anne Arundel Medical Center	30	83.5	21	70	9	30
Baltimore Washington Medical Center	27	60	27	100	0	0
Carroll Hospital Center	23	72	19	83	4	17
Franklin Square Hospital Center	19	75	15	79	4	21
Frederick Memorial Hospital ²	23	49	20	87	3	13
Holy Cross Hospital	19	81	15	79	4	21
Howard County General Hospital	27	85	15	56	12	44
Johns Hopkins Bayview Medical Center	15	66	10	67	5	33
Saint Agnes Hospital	23	84	13	57	10	43
Shady Grove Adventist Hospital	29	80	22	76	7	24
Southern Maryland Hospital Center	15	84	10	67	5	33
Upper Chesapeake Medical Center	39	77	23	59	16	41
Washington County Hospital	21	83	14	67	7	33

¹ PCI volume – number of patients who had a device (balloon, stent, thrombectomy) used that is designed to open the infarction-related artery. The first device used is almost always a balloon-type device, but occasionally is a thrombectomy device. The data include all eligible patients and total door-to-balloon time for transferred patients.

² Frederick Memorial Hospital performed PCI on one patient who did not meet the inclusion criteria for primary PCI in hospitals without on-site cardiac surgery. The above volume and DTB data exclude this non-STEMI (NSTEMI) patient.